REMARKS

Reconsideration of the application is respectfully requested for the following reasons:

1.   <u>Amendments to Claims</u>

Claim 1 has been canceled and claims 2, 3, and 6 have been amended to include the limitations of claim 1, from which they originally depended.   In addition, formal grammatical and idiomatic corrections have been made to amended claims 2, 3, 6, and 7.

2.   <u>Rejection of 1, 2, 6, and 7 Under 35 USC §103(a) in view of U.S. Patent Nos. 6,295,546 (Adiletta) and 5,614,959 (Jeong)</u>

This rejection is respectfully traversed, insofar as it applies to claims 2, 6, and 7, on the grounds that the Adiletta and Jeong patents fail to disclose or suggest the following features recited in claims 2, 6, and 7:

- • a motion estimator that is capable of selecting between a full search and fast (interlace search) in accordance with the capability requested by a target application and without supplementary hardware, as recited in claim 2;
- • updating non-overlapped data when bringing the search window data of the current macro block from the previous frame storing means, as recited in claim 6; and
- • differential calculation of addresses based on whether the number of the update macro block is even or odd, as recited in claim 7.

The Jeong patent is cited solely for its disclosure of motion estimation "mean absolute error" (MAE) calculation, and fails to disclose the claimed motion estimator architecture that in which previous search window data of a current macro block from a previous frame memory is multiplexed with current macro block data used to find a motion vector in a current frame memory to provide a basis for the MAE calculation , and further

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fails to search method selection as recited in claim 2, search window data updating as recited in claim 6, or differential addressing as recited in claim 7.

While the Adiletta patent does appear to disclose the current and previous frame search window data storage and multiplexing (interframe coding) originally recited in claim 1, it also fails to disclose or suggest the search method selection of claim 2, the search window updating of claim 6, or the differential addressing of claim 7.

With respect to claim 1, the Adiletta patent merely suggests in lines 2-11 of col. 29 that interframe coding can reduce the coding bit rate. Nowhere does Adiletta even remotely suggest use of different search methods based on the bit rate, as recited in claim 2.

With respect to claim 6, the Adiletta patent describes a way of selecting between interframe coding of the type claimed and intraframe coding, based on the energy content of the macro block, i.e., on likely differences between current and previous frame macro blocks, as explained in col. 15, lines 43-60. In contrast, the claimed invention uses data from the previous frame storing means (which may be an external DRAM) to update the search window memory (preferably, and internal SRAM), thereby reducing memory bandwidth (since the moved data is common to half the used search window of the former macro block, only half the updated data need to be brought). This eliminates the need for inter-intra switching of the type taught by Adiletta, and is basically a contrary approach to the approach taught by Adiletta.

Finally, with respect to claim 7, rather than simply having the motion estimator calculate addresses differently for odd and even update macro blocks, Adiletta uses bit rate control based on a quantization level determination, as described in col. 25, lines 40-52.

Because neither the Adiletta patent nor the Jeong patent, whether considered individually or in any reasonable combination, discloses or suggests all elements recited in

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the claims corresponding to original claims 2, 6, and 7, withdrawal of the rejection under 35 USC §103(a) is respectfully requested.

3.   Objection to Claims 3-5

The objection to claims 3-5 has been addressed by re-writing claim 3, from which claims 4 and 5 depend, to include the limitations of claim 1, pursuant to the indication of allowable subject matter in item 3 on page 4 of the Official Action.

Having thus overcome each of the rejections made in the Official Action, withdrawal of the rejections and expedited passage of the application to issue is requested.

Respectfully submitted,

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